THAT WHICH IS CLAIMED:

1.   A method of differentiating between an intended activation of a touch sensor and noise in a circuit, said method comprising the steps of:

receiving a touch sensor reading;

calculating an amount of deviation between said touch sensor reading and an average sensor reading;

adding said amount of deviation to a cumulative deviation tally;

obtaining a ratio of said cumulative deviation tally to a scale;

incrementing a counter that tracks the number of touch sensor readings included in said cumulative deviation tally; and

sending an output signal indicative of a touch if said ratio meets or exceeds a threshold and said counter falls within a predetermined range.

2.   The method of Claim 1, wherein said average sensor reading is an average of a predetermined number of previous touch sensor readings.

3.   The method of Claim 1, wherein said average sensor reading is an average of four previous touch sensor readings.

4.   The method of Claim 3, further comprising the step of updating said average sensor reading to include said touch sensor reading as one of said four previous readings used to calculate said average.

5.   The method of Claim 4, wherein further including the step of expressing said ratio as a percentage and comparing said percentage against said threshold.

6.   The method of Claim 1, further comprising:

comparing said ratio against at least one stored ratio to determine whether said ratio is continuing a trend of increasing or decreasing; and

resetting said cumulative deviation tally and said counter if said ratio is not continuing said trend established by said at least one stored ratio.

7.   The method of Claim 1, further comprising ignoring said touch sensor reading if said ratio exceeds said threshold and said counter is one.

8.   The method of Claim 1, further comprising ignoring said touch sensor reading if said ratio exceeds said threshold and said counter is greater than eight.

9.   The method of Claim 1, further comprising ignoring said touch sensor reading if said ratio exceeds said threshold and said counter is less than two or greater than eight.

10.   The method of Claim 9, further comprising resetting said cumulative deviation tally and said counter if said counter is less than two or greater than eight.

11.   The method of Claim 1, wherein said threshold is determined at least in part by a configuration of said circuit, said touch sensor and a dielectric cover.

12.   The method of Claim 1, wherein said predetermined range comprises between two and eight touch sensor readings.

13.   The method of Claim 1, wherein said predetermined range comprises between two and twelve touch sensor readings.

14.   A method of differentiating between an intended activation of a touch sensor and noise in a circuit, said method comprising the steps of:

receiving a touch sensor reading;

calculating an amount of deviation between said touch sensor reading and an average sensor reading;

adding said amount of deviation to a cumulative deviation tally;

obtaining a ratio of said cumulative deviation tally to a scale;

comparing said ratio against a stored ratio to determine whether said ratio is increasing;

performing the following steps if said ratio is increasing:

1. incrementing a counter that tracks the number of touch sensor readings included in said cumulative deviation tally; and

2. sending an output signal indicative of a pressed touch sensor if said ratio meets or exceeds a threshold and said counter falls within a predetermined range; and

performing the following steps if said ratio is not increasing:

1. incrementing a counter that tracks the number of touch sensor readings included in said cumulative deviation tally; and

2. sending an output signal indicative of a released touch sensor if said ratio meets or exceeds a threshold and said counter falls within a predetermined range.

15.   The method of Claim 14, wherein said predetermined range comprises a high and a low value and said method further comprises the step of resetting said counter and said cumulative deviation tally if said threshold is met or exceeded and said counter is less than said low value.

16.   The method of Claim 14, wherein said predetermined range comprises a high and a low value and said method further comprises the step of resetting said counter and said cumulative deviation tally if said counter reaches said high value without said ratio meeting or exceeding said threshold.

17.   The method of Claim 14, wherein said predetermined range is between two and eight.

18.   The method of Claim 14, wherein said predetermined range is between two and twelve.

19.   The method of Claim 14, wherein said threshold is .50.

20.   The method of Claim 14, further comprising converting said to a percentage.

21.   The method of Claim 14, wherein said scale is set at a highest potential touch sensor reading.

22.   The method of Claim 14, wherein said scale is set at a highest detected sensor reading over a period of time.

23.   The method of Claim 14, wherein said period of time is one minute.

24. A method of analyzing readings from a touch sensor to differentiate between noise and a presence of a human-intended activation of said touch sensor, said method comprising the steps of:

receiving a first group of sensor readings;

5 calculating an average reading of said first group;

receiving a second group of sensor readings;

calculating a deviation from said average reading for each sensor reading in said second group;

calculating a cumulative deviation for said second group;

10 obtaining a ratio of said cumulative deviation to a maximum value; and

indicating that said human-intended activation has occurred if:

said ratio meets or exceeds a threshold value; and

said threshold is met or exceeded within a predetermined number of sensor readings.

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25. The method of Claim 24, wherein the step of receiving a first group of four sensor readings comprises receiving at least four sensor readings.

26. The method of Claim 24, wherein said maximum value is the highest

20 sensor reading detected over a period of time.

27. The method of Claim 24, wherein said maximum value is the highest possible sensor reading.

25 28. The method of Claim 24, wherein said sensor readings are measured in volts.

29. The method of Claim 24, wherein said sensor readings are received at a frequency of approximately one every sixteen milliseconds.

30.   A method of differentiating between an intended activation of a touch sensor and noise in a circuit, said method comprising the steps of:

receiving a signal that includes a plurality of touch sensor readings that are multiplexed into said signal;

demultiplexing said signal to isolate a single touch sensor reading;

calculating an amount of deviation between said single touch sensor reading and an average sensor reading;

adding said amount of deviation to a cumulative deviation tally;

obtaining a ratio of said cumulative deviation tally to a scale;

incrementing a counter that tracks the number of touch sensor readings included in said cumulative deviation tally; and

sending an output signal indicative of a touch if said ratio meets or exceeds a threshold and said counter falls within a predetermined range.

31.   The method of Claim 30, wherein each of said multiplexed touch sensor readings is associated with a unique time interval and voltage.

32.   The method of Claim 30, further comprising decoding said demultiplexed signal.

33.   A capacitive responsive circuit for detecting a proximity or touch of a person in a noisy environment and for controlling power to a load, said circuit comprising:

5   an oscillator that provides a periodic output signal;

           a touch circuit coupled to said oscillator to receive said periodic output signal, said touch circuit including a touch sensor for receiving tactile command information from an operator, said touch circuit further comprising a low pass filter for converting a frequency of said periodic output signal to a DC voltage value; and

10   a detector circuit coupled to said touch circuit, said detector circuit including a microcontroller that receives a plurality of said DC voltage values over time and generates an output signal in response to an intended activation of said touch sensor, said microcontroller configured to monitor said plurality of DC voltage values and to detect an intended activation of said touch sensor based at least in part on a

15   comparison of a ratio of a cumulative deviation of said plurality of DC voltage values from an average voltage value to a scale against a threshold ratio.

34.   A capacitive responsive circuit for detecting a proximity or touch of a person in a noisy environment and for controlling power to a load, said circuit comprising:

an oscillator that provides a periodic output signal;

5   a touch circuit coupled to said oscillator to receive said periodic output signal, said touch circuit including a plurality of touch sensors that receive tactile command information from an operator, said touch circuit further comprising a low pass filter associated with each of said plurality of touch sensors for converting a frequency of said periodic output signal to a DC voltage value; and

10   a detector circuit coupled to said touch circuit, said detector circuit including a microcontroller that receives a plurality of said DC voltage values over time and generates an output signal in response to an intended activation of said touch sensor, said microcontroller configured to monitor said plurality of DC voltage values and to detect an intended activation of said touch sensor based at least in part on a

15   comparison of a ratio of a cumulative deviation of said plurality of DC voltage values from an average voltage value to a scale against a threshold ratio.

35.   The circuit of Claim 34, wherein said plurality of touch sensors are arranged as an array.

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36.   The circuit of Claim 35, wherein said plurality of touch sensors are configured to detect a direction and speed of a human or human-like contact.

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